

when the control device 700 sends a plurality of control commands to which additional information is tagged by the agent device 500 and pre-registered control commands to be executed, the electronic device 800 may integrate the control commands and execute only one command. For example, a communicator 810 of the electronic device 800 may access a home network communication network to connect to the control device 700 and may receive control commands from the control device 700 and transfer the received control commands to the command executor 620. In an example, the command executor 620 may integrate the received commands and may determine and execute one final control command.

[0123] Also, although not shown, the command tagger may be installed in the agent device 500, and the command executor 620 may be installed in a separate control command processing device. However, other arrangements of the command tagger, command executor, agent device, controller, control command processing device, and electronic device are considered to be well within the scope of the present disclosure.

[0124] FIG. 10 shows the network control apparatus 6 according to an embodiment. According to an embodiment of FIG. 10, elements 610 and 620 of a control command processing device may be installed in the electronic device 800. The network control system 6 may include the agent device 500, the control device 700, and the electronic device 800. The electronic device 800 may include a communicator 810, a command tagger 610, a command executor 620, and an operation performer 820. When the communicator 810 of the electronic device 800 receives a plurality of control commands from the control device 700, a final control command is determined by the command tagger 610 and the command executor 620, and the determined final control command is performed by the operation performer 820. Detailed description thereof will be omitted.

[0125] Various embodiments to which a control command processing technique for integrating and processing a plurality of control commands is applied in a network control apparatus that controls an electronic device through a voice agent have been described. However, the present disclosure is not limited to the above-described embodiments, and may be modified in various manners without departing from the spirit and scope of the illustrative examples described.

[0126] The network control apparatuses 1, 2, 3, 4, 5, and 6, control command processing apparatus 100, agent devices 500, voice agent 510, control command processing device 600, command tagger 610, command executor 620, control device 700, electronic device 800, operation performer 820, command tagger 110, command executors 120, 120a, 120b, 120c, and 120d, command integrator 121, final-command determiner 122, interactor 123, agent selector 124, communicator 520, communicator 810, control command receptor 710, controller 720, command database (DB) 125, and policy DB 126 described in FIGS. 1, 2A-2D, and 5-10 that perform the operations described in this application are implemented by hardware components configured to perform the operations described in this application that are performed by the hardware components. Examples of hardware components that may be used to perform the operations described in this application where appropriate include controllers, sensors, generators, drivers, memories, comparators, arithmetic logic units, adders, subtractors, multipliers, dividers, integrators, and any other electronic com-

ponents configured to perform the operations described in this application. In other examples, one or more of the hardware components that perform the operations described in this application are implemented by computing hardware, for example, by one or more processors or computers. A processor or computer may be implemented by one or more processing elements, such as an array of logic gates, a controller and an arithmetic logic unit, a digital signal processor, a microcomputer, a programmable logic controller, a field-programmable gate array, a programmable logic array, a microprocessor, or any other device or combination of devices that is configured to respond to and execute instructions in a defined manner to achieve a desired result. In one example, a processor or computer includes, or is connected to, one or more memories storing instructions or software that are executed by the processor or computer. Hardware components implemented by a processor or computer may execute instructions or software, such as an operating system (OS) and one or more software applications that run on the OS, to perform the operations described in this application. The hardware components may also access, manipulate, process, create, and store data in response to execution of the instructions or software. For simplicity, the singular term “processor” or “computer” may be used in the description of the examples described in this application, but in other examples multiple processors or computers may be used, or a processor or computer may include multiple processing elements, or multiple types of processing elements, or both. For example, a single hardware component or two or more hardware components may be implemented by a single processor, or two or more processors, or a processor and a controller. One or more hardware components may be implemented by one or more processors, or a processor and a controller, and one or more other hardware components may be implemented by one or more other processors, or another processor and another controller. One or more processors, or a processor and a controller, may implement a single hardware component, or two or more hardware components. A hardware component may have any one or more of different processing configurations, examples of which include a single processor, independent processors, parallel processors, single-instruction single-data (SISD) multiprocessing, single-instruction multiple-data (SIMD) multiprocessing, multiple-instruction single-data (MISD) multiprocessing, and multiple-instruction multiple-data (MIMD) multiprocessing.

[0127] The methods illustrated in FIGS. 3A-3B and 4 that perform the operations described in this application are performed by computing hardware, for example, by one or more processors or computers, implemented as described above executing instructions or software to perform the operations described in this application that are performed by the methods. For example, a single operation or two or more operations may be performed by a single processor, or two or more processors, or a processor and a controller. One or more operations may be performed by one or more processors, or a processor and a controller, and one or more other operations may be performed by one or more other processors, or another processor and another controller. One or more processors, or a processor and a controller, may perform a single operation, or two or more operations.

[0128] Instructions or software to control computing hardware, for example, one or more processors or computers, to implement the hardware components and perform the meth-